

REMARKS:

Claims 1-19 are currently pending in the application. Claims 1-11 stand withdrawn as being directed to a non-elected group. Claim 15 stands rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 12, 14, 16, 17, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sonneborn et. al. (*Sonneborn*). Claims 13, 15, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sonneborn* in view of U.S. Patent No. 2,718,756 to McDowall (*McDowall*). Claims 1-11 and 13 are hereby cancelled.

Election:

Claims 1-11 stand withdrawn as being directed to a non-elected group. Claims 1-11 are hereby cancelled. The Applicants hereby affirm the Examiner's statement that Claims 12-19 were elected without traverse.

Rejections Under 35 U.S.C. § 112:

Claim 15 stands rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. The Examiner states that "the shape of a chalice" is vague and indefinite, and that "[c]halices come in many varieties of shapes and forms," and requests and explanation.

Claim 15 is hereby amended to more particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. The Applicants submit that the amendments to Claim 15 overcome the Examiner's rejection under 35 U.S.C. § 112, and that Claim 15, as amended, is now in condition for allowance. Therefore, the Applicants respectfully request that Claim 15, as amended, be allowed.

Rejections Under 35 U.S.C. § 102(b):

Claims 12, 14, 16, 17, and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Sonneborn*.

With respect to Claims 12 and 16, the Examiner states that *Sonneborn* teaches a forward mount and an aft mount (see 203 and 205 of Figure 3 in the subject application). In addition, the Examiner states that the phrases "wherein the contribution from the engine to the dynamic response of the rotorcraft is determined by selectively tailoring the physical characteristics of the forward mount" and "wherein the torque from the rotor is prevented from being induced into the engine by the aft mount" carry no patentable weight. The Applicants respectfully disagree.

Sonneborn discloses a propulsion system for a tilt rotor aircraft. The *Sonneborn* propulsion system includes: a turbine engine, a forward engine mount, a proprotor gear box, and an aft engine mount. The *Sonneborn* forward engine mount requires an engine torquemeter housing, a gimbal ring, and an input quill housing. This is fully explained on pages 7 and 8 of the subject application. The disadvantages of the *Sonneborn* system, as well as, the distinguishing features between the *Sonneborn* system and the claimed invention, are clearly documented in the subject application. It is the *Sonneborn* system that the claimed invention improves upon. The *Sonneborn* system is a complicated, heavy, gimbaled system. The *Sonneborn* system does not have the same functionality as, cannot be used as, and cannot be selectively tailored as, the claimed invention. For example, *Sonneborn* states that "both front and rear mounts react torque, which means that the *Sonneborn* mount system is torsionally redundant." Eliminating redundant torque is one of the primary features of the claimed invention. That is one reason why the Applicants disagree with the Examiner's assertion that certain clauses of Claims 12 and 16 carry no patentable weight.

In contrast, the claimed invention teaches unique features. Aft mount 305 includes links 353a, 353b aligned with a focal point P1 that lies on longitudinal axis 357. This alignment eliminates undesired torque from rotor 23b from being induced into engine

307. This feature of torque from the rotor being prevented from being induced into the engine by the aft mount makes the subject invention unique. As such, this feature does have patentable weight. Indeed, *Sonneborn* teaches away from the features and functionality aft mount 305. *Sonneborn* states that "both front and rear mounts react torque, which means that the mount system is torsionally redundant." Again, eliminating redundant torque is one of the primary features and functions of aft mount 305.

As explained in the subject application, aft mount 305 resists only vertical and lateral forces. For this reason, forward mount 303 works in conjunction with aft mount 305 to counteract forces in all six degrees of freedom. For example, as discussed with respect to Figure 16A, when aft mount 305 and forward mount 303 are implemented, undesired engine torque is eliminated. In the claimed invention, the physical characteristics of forward mount 303 are selectively tailored by altering T1, D2, and S1 to produce a desired dynamic response. Thus, the forward mount 303 is capable of being tailored to eliminate undesired torque, a feature not taught by the prior art. For at least these reasons, the Applicants submit that the "dynamic response of the rotorcraft is determined by selectively tailoring the physical characteristics of the forward mount" has patentable weight. For at least these reasons, the Applicants submit that the claimed invention is not anticipated by *Sonneborn*.

Claims 12 and 16 are hereby amended to more particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. The Applicants submit that the amendments to Claims 12 and 16 overcome the Examiner's rejections under 35 U.S.C. § 102(b), and that Claims 12 and 16, as amended, are now in condition for allowance. Therefore, the Applicants respectfully request that Claims 12 and 16, as amended, be allowed.

With respect to Claim 14, the Examiner states that the forward mount defines a housing, because the forward mount is hollow. As set forth above, the *Sonneborn* forward engine mount requires a gimbal ring, an input quill housing, and an engine torquemeter housing, as is fully explained on pages 7 and 8 of the subject application.

The Applicants reiterate here the distinguishing remarks set forth above with respect to the *Sonneborn* system. In particular, *Sonneborn* does not disclose a forward mount having the claimed features. For at least these reasons, the Applicants submit that Claim 14 is not anticipated by *Sonneborn*.

Claim 14 is not hereby amended; however, Claim 14 remains dependent upon Claim 12, which is hereby amended. The Applicants submit that the amendments to Claim 12 overcome the Examiner's rejections of Claim 14 under 35 U.S.C. § 102(b), and that Claim 14 is now in condition for allowance. Therefore, the Applicants respectfully request that Claim 14 be allowed.

With respect to Claim 17, the Examiner states that *Sonneborn* teaches legs 213b and 123c form a bipod in a plane traverse to the longitudinal axis of the engine. The Applicants respectfully disagree that the bipod is taught by *Sonneborn*. The Applicants reiterate here the distinguishing remarks set forth above with respect to the *Sonneborn* system. In addition, *Sonneborn* does not teach a bipod leg in a plane traverse to the longitudinal axis. The legs taught by *Sonneborn* do not form a bi-pod; rather, the legs taught by *Sonneborn* attach at separate points on both the engine and the pylon with a focal point far removed from the engine centerline.

In contrast, in the claimed invention, the legs 353a and 353b form a bipod with a focal point P1 that lies on the longitudinal axis 357 of the engine 307. This unique alignment eliminates undesired torque from rotor 23b from being induced into engine 307. For at least these reasons, the Applicants submit that *Sonneborn* does not teach a bipod in a plane traverse to the longitudinal axis of the engine. Therefore, the Applicants respectfully submit that the Examiner find that Claim 17 meets the requirements under 35 U.S.C. 102(b).

Claim 17 is not hereby amended; however, Claim 17 remains dependent upon Claim 16, which is hereby amended. The Applicants submit that the amendments to Claim 16 overcome the Examiner's rejections of Claim 17 under 35 U.S.C. § 102(b), and

that Claim 17 is now in condition for allowance. Therefore, the Applicants respectfully request that Claim 17 be allowed.

With respect to Claim 19, the Examiner states that *Sonneborn* teaches a bipod assembly with rigid links mounted to a pylon at two points and attached to an engine at one point. The Applicants respectfully disagree. The Applicants reiterate here the distinguishing remarks set forth above with respect to the *Sonneborn* system. The Applicant submits that the foregoing remarks clearly distinguish the claimed invention over *Sonneborn*'s bipod. For at least these reasons, the Applicants submit that *Sonneborn* does not teach a bipod mounted to a pylon at two points and attached to an engine at one point.

Claim 19 is not hereby amended; however, Claim 19 remains dependent upon Claim 16, which is hereby amended. The Applicants submit that the amendments to Claim 16 overcome the Examiner's rejections of Claim 19 under 35 U.S.C. § 102(b), and that Claim 19 is now in condition for allowance. Therefore, the Applicants respectfully request that Claim 19 be allowed.

Rejections Under 35 U.S.C. § 103(a):

Claims 13, 15, and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sonneborn* in view of *McDowall*.

With respect to Claims 13, 15 and 18, the Examiner states that *Sonneborn* teaches all claimed parts but is silent on the "chalice" shape forward mount with an annular base portion, top portion, and fixture region. The Examiner relies on *McDowall* to teach the chalice shape designed forward mount. The Examiner states that *McDowall* teaches a chalice like mount 26 with an annular base portion connected to the engine B, top portion connected to the transmission A, and flexure region, which is the middle part of the mount. The Applicants respectfully disagree that *McDowall* teaches the chalice shape forward mount and that *Sonneborn* teaches all other claimed parts.

The Applicants reiterate here the distinguishing remarks set forth above with respect to *Sonneborn*. The Applicants submit that the foregoing remarks clearly distinguish the claimed invention over *Sonneborn*.

McDowall teaches one or more gas turbine engines integrated with a reduction gear assembly that operates a propeller. The *McDowall* device incorporates a tubular column 26, which **rigidly** joins a forward frame 11 to a reduction gear 16 (col. 2, ln. 72; see Fig. 2). Column 26 serves as a protective housing for extension shaft 22 (col. 3, ln. 1; see Fig. 2). Column 26 is rigid shaft with a constant radius and bell-shape endings (see Fig. 1), **not a flexure member**.

In contrast, claimed forward mount 303 serves a completely different function than column 26. Column 26 provides a protective housing for extension shaft 22; whereas, the claimed forward mount provides a selectively tunable flexure means for tailoring the dynamic response of the engine to react rotor torque from being induced into the engine. The size, shape, weight, wall thickness, and other physical characteristics of the forward mount are selectively tailored to tune the contribution of the engine to the dynamic response of the entire aircraft. The chalice-like shape and flexure as claimed in the present application have unique and definitive purposes. In contrast, the bell-shape endings in the *McDowall* devices serve no other purpose than to rigidly bolt the fixture to forward frame 11 and reduction gear 16. *McDowall* does not disclose, teach, mention, or suggest using column 26 as a flexure member. Indeed, column 26 in the *McDowall* device is intended to be a rigid shaft protector. As such, *McDowall* actually teaches away from the claimed invention. For at least these reasons, the Applicants submit that it would not have been obvious to a person of ordinary skill in the art at the time of the invention with knowledge of *Sonneborn* and *McDowall* to arrive at the claimed invention.

Claim 13 is hereby cancelled; however, the limitations of Claim 13 have been incorporated into amended Claim 12. Claims 15 and 18 are hereby amended to more particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. Furthermore, Claims 15 and 18 remain dependent upon Claims 12 and 16, respectively, which are also hereby amended. The Applicants submit that the

amendments to Claims 12, 16, 15, and 18 overcome the Examiner's rejections of Claims 15 and 18 under 35 U.S.C. § 103(a), and that Claims 15 and 18, as amended, are now in condition for allowance. Therefore, the Applicants respectfully request that Claims 15 and 18, as amended, be allowed.

With respect to Claim 18, the Examiner states that "although Sonneborn doesn't explicitly mention a mounted to pylon mounting bracket, the examiner believes that it is there." The Applicants respectfully submit that the Examiner's rejection is improper. If the Examiner "believes that it is there," then the Examiner should describe specifically where in the reference it is found. In addition, the Examiner takes official notice that pylon mount brackets are well known and a person skilled in the art would have used them to mount the engine to the pylons. The Applicants respectfully disagree that the claimed pylon mounting bracket is well known in the art.

Mounting brackets are generally used to mount engines to pylons. As shown in Figure 3 of the claimed invention, mounting bracket 211 is attached to engine 207 and coupled to links 213a, 213b, and 213c. Figure 3 is used by the Applicants to depict prior art. In the prior art, link 213c is necessary for torque sharing, because mount is not sufficiently tunable or strong. Link 213c counteracts the induced torque from the rotor that is transferred back through the engine 207 and into the pylon assembly.

In contrast, the claimed mounting bracket attaches to the engine and is coupled to the links. Unlike the prior art, the claimed mounting assembly does not counteract the induced torque from the rotor (see Fig. 16A). This unique feature is accomplished by positioning the links to create a focal point P1 located near the longitudinal axis of the engine. For at least these reasons, the Applicants submit that it would not have been obvious to a person of ordinary skill in the art at the time of the invention with knowledge of Sonneborn, McDowall, or any related general knowledge, to arrive at the claimed invention.

Claim 18 is hereby amended to more particularly point out and distinctly claim the subject matter that the Applicants regard as the invention. Furthermore, Claim 18 remains

dependent upon Claim 16, which are also hereby amended. The Applicants submit that the amendments to Claims 16 and 18 overcome the Examiner's rejections of Claim 18 under 35 U.S.C. § 103(a), and that Claim 18, as amended, is now in condition for allowance. Therefore, the Applicants respectfully request that Claim 18, as amended, be allowed.

CONCLUSION:

This Amendment is being filed via the U.S. Patent and Trademark Office's EFS-Web electronic filing system. No fees are deemed to be necessary; however, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayments, to **Deposit Account No. 502806**.

Please link this application to Customer No. 38441, so that its status may be checked via the PAIR System.

Respectfully submitted,

Date

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